

TRANSMITTAL LETTER TO THE UNITED STATES

DESIGNATED/ELECTED OFFICE (DO/EO/US)

CONCERNING A FILING UNDER 35 U.S.C. 371

1647

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

09/913560

INTERNATIONAL APPLICATION NO.

PCT/DE 00/01464

INTERNATIONAL FILING DATE

MAY 10, 2000

PRIORITY DATE CLAIMED

MAY 26, 1999

TITLE OF INVENTION

MOUNT FOR AN ADJUSTABLE HOUSING

APPLICANT(S) FOR DO/EO/US

Bernhard LUCAS, Dirk LANGENHAN

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
- a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
- b. ☒ has been transmitted by the International Bureau.
- c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ A copy of the International Search Report (PCT/ISA/210).
8. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
- a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
- b. ☐ have been transmitted by the International Bureau.
- c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
- d. ☐ have not been made and will not be made.
9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
10. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
11. ☐ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

Items 13 to 18 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
- A **SECOND** or **SUBSEQUENT** preliminary amendment.
16. ☐ A substitute specification.
17. ☐ A change of power of attorney and/or address letter.
18. ☒ Certificate of Mailing by Express Mail
19. ☐ Other items or information:

ET 473368826 US

APPLICATION NO. (UNKNOWN, SEE 37 CFR

09/913560

INTERNATIONAL APPLICATION NO.

PCT/DE 00/01464

ATTORNEY'S DOCKET NUMBER

1647

The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

- ☐ Search Report has been prepared by the EPO or JPO \$930.00
- ☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) \$720.00
- ☐ No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) \$790.00
- ☒ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$1,070.00
- ☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) \$98.00

ENTER APPROPRIATE BASIC FEE AMOUNT =**\$1,000.00**

Surcharge of **\$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).

\$0.00

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	8 - 20 =	0	x \$18.00	\$0.00	
Independent claims	1 - 3 =	0	x \$80.00	\$0.00	
Multiple Dependent Claims (check if applicable).				\$0.00	

TOTAL OF ABOVE CALCULATIONS =**\$1,000.00**

Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable).

\$0.00**SUBTOTAL =****\$1,000.00**

Processing fee of **\$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).

\$0.00**TOTAL NATIONAL FEE =****\$1,000.00**

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable).

☒**\$40.00****TOTAL FEES ENCLOSED =****\$1,040.00**

Amount to be:
refunded \$
charged \$

- ☐ A check in the amount of _____ to cover the above fees is enclosed.
- ☒ Please charge my Deposit Account No. **19-4675** in the amount of **\$1,040.00** to cover the above fees.
A duplicate copy of this sheet is enclosed.
- ☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. **19-4675** A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

STRIKER, STRIKER & STENBY
103 EAST NECK ROAD
HUNTINGTON, NEW YORK 11743

SIGNATURE

MICHAEL J. STRIKER

NAME

27233

REGISTRATION NUMBER

AUGUST 15, 2001

DATE

UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner:

Art Unit:

In re:

Applicant: LUCAS

Serial No:

Filed:

For: MOUNT FOR AN ADJUSTABLE
HOUSING

SIMULTANEOUS AMENDMENT

August 15, 2001

Hon. Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

Simultaneously with filing of this application, please amend the
application as follows:

In the specification:

Please amend the specification attached.

In the claims:

Cancel all claims without prejudice.

Add the following claims as attached.

REMARKS

This amendment is submitted simultaneously with filing of the application.

With the present amendment applicant has amended the specification to bring it in compliance with the US Patent Practice.

Consideration and allowance of present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Any costs involved should be charged to the deposit account of the undersigned (No. 19-4675). Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael J. Striker", with a long horizontal flourish extending to the right.

Michael J. Striker
Attorney for Applicants
Reg. No. 27233

0943560-031301
"0943560"

In the specification:

Page 1, change the heading "Prior Art" to -- Background of the Invention --.

Page 1, first paragraph, amend as follows:

The invention relates to a mount for an adjustable housing, in particular for a radar sensor, which is attached to the outside of a motor vehicle[, according to the preamble to the main claim].

Amended page 1 first paragraph:

The invention relates to a mount for an adjustable housing, in particular for a radar sensor, which is attached to the outside of a motor vehicle.

Page 2, change the heading "Advantages of the Invention" to -- Summary of the Invention --.

Page 2, first paragraph, amend as follows:

姓名	性别	年龄	籍贯	职业	住址	电话	备注
王德胜	男	45	山东	教师	北京路123号	123456	
李小红	女	32	江苏	医生	文化路45号	234567	
张志强	男	28	河南	工程师	建设路78号	345678	
刘小芳	女	25	四川	护士	健康路90号	456789	
陈大明	男	50	广东	商人	商业路101号	567890	
赵小华	女	38	浙江	会计	财务路112号	678901	
孙伟	男	42	湖北	工人	工业路123号	789012	
周丽娟	女	35	湖南	作家	文艺路134号	890123	
吴国强	男	48	安徽	农民	农村路145号	901234	
郑小梅	女	30	江西	记者	新闻路156号	012345	
冯大刚	男	55	山西	教授	学术路167号	123456	
马小娟	女	27	陕西	歌手	音乐路178号	234567	
徐志强	男	40	甘肃	律师	法律路189号	345678	
黄小芳	女	33	宁夏	画家	艺术路190号	456789	
曹大明	男	52	内蒙古	干部	政府路201号	567890	
周小华	女	36	广西	教师	教育路212号	678901	
孙伟	男	44	海南	商人	商业路223号	789012	
周丽娟	女	34	重庆	医生	健康路234号	890123	
吴国强	男	46	四川	工人	工业路245号	901234	
郑小梅	女	29	贵州	会计	财务路256号	012345	
冯大刚	男	54	云南	教授	学术路267号	123456	
马小娟	女	26	西藏	歌手	音乐路278号	234567	
徐志强	男	39	青海	律师	法律路289号	345678	
黄小芳	女	31	宁夏	画家	艺术路290号	456789	
曹大明	男	51	内蒙古	干部	政府路301号	567890	
周小华	女	35	广西	教师	教育路312号	678901	
孙伟	男	43	海南	商人	商业路323号	789012	
周丽娟	女	33	重庆	医生	健康路334号	890123	
吴国强	男	45	四川	工人	工业路345号	901234	
郑小梅	女	28	贵州	会计	财务路356号	012345	
冯大刚	男	53	云南	教授	学术路367号	123456	
马小娟	女	25	西藏	歌手	音乐路378号	234567	
徐志强	男	38	青海	律师	法律路389号	345678	
黄小芳	女	30	宁夏	画家	艺术路390号	456789	
曹大明	男	50	内蒙古	干部	政府路401号	567890	
周小华	女	34	广西	教师	教育路412号	678901	
孙伟	男	42	海南	商人	商业路423号	789012	
周丽娟	女	32	重庆	医生	健康路434号	890123	
吴国强	男	44	四川	工人	工业路445号	901234	
郑小梅	女	27	贵州	会计	财务路456号	012345	
冯大刚	男	52	云南	教授	学术路467号	123456	
马小娟	女	24	西藏	歌手	音乐路478号	234567	
徐志强	男	37	青海	律师	法律路489号	345678	
黄小芳	女	29	宁夏	画家	艺术路490号	456789	
曹大明	男	49	内蒙古	干部	政府路501号	567890	
周小华	女	33	广西	教师	教育路512号	678901	
孙伟	男	41	海南	商人	商业路523号	789012	
周丽娟	女	31	重庆	医生	健康路534号	890123	
吴国强	男	43	四川	工人	工业路545号	901234	
郑小梅	女	26	贵州	会计	财务路556号	012345	
冯大刚	男	51	云南	教授	学术路567号	123456	
马小娟	女	23	西藏	歌手	音乐路578号	234567	
徐志强	男	36	青海	律师	法律路589号	345678	
黄小芳	女	28	宁夏	画家	艺术路590号	456789	
曹大明	男	48	内蒙古	干部	政府路6		

姓名	性别	年龄	籍贯	职业	住址	电话	备注
王德胜	男	45	山东	教师	北京路123号	123456	
李小红	女	32	江苏	医生	文化路45号	234567	
张志强	男	28	河南	工程师	建设路78号	345678	
刘小芳	女	25	四川	会计	商业路90号	456789	
陈大明	男	50	广东	工人	工业路101号	567890	
周丽娟	女	38	浙江	护士	医院路112号	678901	
吴伟强	男	42	湖北	干部	政府路123号	789012	
赵小华	女	30	湖南	记者	新闻路134号	890123	
孙国强	男	55	安徽	农民	农村路145号	901234	
郑小梅	女	27	江西	学生	学校路156号	012345	
冯大明	男	48	福建	商人	市场路167号	123456	
周丽娟	女	35	广西	教师	教育路178号	234567	
吴伟强	男	40	云南	工人	工厂路189号	345678	
赵小华	女	29	贵州	护士	医院路190号	456789	
孙国强	男	52	海南	干部	政府路201号	567890	
郑小梅	女	26	重庆	记者	新闻路212号	678901	
冯大明	男	47	陕西	农民	农村路223号	789012	
周丽娟	女	33	甘肃	学生	学校路234号	890123	
吴伟强	男	43	宁夏	商人	市场路245号	901234	
赵小华	女	28	青海	教师	教育路256号	012345	
孙国强	男	53	新疆	工人	工厂路267号	123456	
郑小梅	女	27	内蒙古	护士	医院路278号	234567	
冯大明	男	49	吉林	干部	政府路289号	345678	
周丽娟	女	36	辽宁	记者	新闻路290号	456789	
吴伟强	男	41	黑龙江	农民	农村路301号	567890	
赵小华	女	30	河北	学生	学校路312号	678901	
孙国强	男	54	山西	商人	市场路323号	789012	
郑小梅	女	28	山东	教师	教育路334号	890123	
冯大明	男	46	河南	工人	工厂路345号	901234	
周丽娟	女	34	湖北	护士	医院路356号	012345	
吴伟强	男	44	湖南	干部	政府路367号	123456	
赵小华	女	29	广东	记者	新闻路378号	234567	
孙国强	男	51	广西	农民	农村路389号	345678	
郑小梅	女	27	云南	学生	学校路390号	456789	
冯大明	男	48	贵州	商人	市场路401号	567890	
周丽娟	女	35	海南	教师	教育路412号	678901	
吴伟强	男	40	重庆	工人	工厂路423号	789012	
赵小华	女	31	陕西	护士	医院路434号	890123	
孙国强	男	52	甘肃	干部	政府路445号	901234	
郑小梅	女	28	宁夏	记者	新闻路456号	012345	
冯大明	男	47	青海	农民	农村路467号	123456	
周丽娟	女	33	新疆	学生	学校路478号	234567	
吴伟强	男	43	内蒙古	商人	市场路489号	345678	
赵小华	女	29	吉林	教师	教育路490号	456789	
孙国强	男	53	辽宁	工人	工厂路501号	567890	
郑小梅	女	27	黑龙江	护士	医院路512号	678901	
冯大明	男	49	河北	干部	政府路523号	789012	
周丽娟	女	36	山西	记者	新闻路534号	890123	
吴伟强	男	41	山东	农民	农村路545号	901234	
赵小华	女	30	河南	学生	学校路556号	012345	
孙国强	男	54	湖北	商人	市场路567号	123456	
郑小梅	女	28	湖南	教师	教育路578号	234567	
冯大明	男	46	广东	工人	工厂路589号	345678	
周丽娟	女	34	广西	护士	医院路590号	456789	
吴伟强	男	44	云南	干部			

姓名	性别	年龄	籍贯	职业	住址	电话	备注
王德胜	男	45	山东	教师	北京路123号	123456	
李小红	女	32	江苏	医生	文化路45号	234567	
张志强	男	28	河南	工程师	建设路78号	345678	
刘小芳	女	25	四川	护士	健康路90号	456789	
陈大明	男	50	广东	商人	商业路101号	567890	
赵小华	女	38	浙江	会计	财务路112号	678901	
孙伟	男	42	湖北	工人	工业路123号	789012	
周丽娟	女	35	湖南	作家	文艺路134号	890123	
吴国强	男	48	安徽	农民	农村路145号	901234	
郑小梅	女	30	江西	记者	新闻路156号	012345	
冯大刚	男	55	山西	教授	学术路167号	123456	
马小娟	女	27	陕西	歌手	音乐路178号	234567	
徐志强	男	40	甘肃	律师	法律路189号	345678	
黄小芳	女	33	宁夏	画家	艺术路190号	456789	
曹大明	男	52	内蒙古	官员	政府路201号	567890	
周小华	女	36	广西	教师	教育路212号	678901	
孙伟	男	44	海南	商人	商业路223号	789012	
周丽娟	女	34	重庆	医生	健康路234号	890123	
吴国强	男	46	四川	工人	工业路245号	901234	
郑小梅	女	29	云南	记者	新闻路256号	012345	
冯大刚	男	54	贵州	教授	学术路267号	123456	
马小娟	女	26	福建	歌手	音乐路278号	234567	
徐志强	男	39	江西	律师	法律路289号	345678	
黄小芳	女	31	湖北	画家	艺术路290号	456789	
曹大明	男	51	湖南	官员	政府路301号	567890	
周小华	女	35	广东	教师	教育路312号	678901	
孙伟	男	43	广西	商人	商业路323号	789012	
周丽娟	女	33	海南	医生	健康路334号	890123	
吴国强	男	45	重庆	工人	工业路345号	901234	
郑小梅	女	28	四川	记者	新闻路356号	012345	
冯大刚	男	53	云南	教授	学术路367号	123456	
马小娟	女	25	贵州	歌手	音乐路378号	234567	
徐志强	男	38	福建	律师	法律路389号	345678	
黄小芳	女	30	湖北	画家	艺术路390号	456789	
曹大明	男	50	湖南	官员	政府路401号	567890	
周小华	女	34	广东	教师	教育路412号	678901	
孙伟	男	42	广西	商人	商业路423号	789012	
周丽娟	女	32	海南	医生	健康路434号	890123	
吴国强	男	44	重庆	工人	工业路445号	901234	
郑小梅	女	27	四川	记者	新闻路456号	012345	
冯大刚	男	52	云南	教授	学术路467号	123456	
马小娟	女	24	贵州	歌手	音乐路478号	234567	
徐志强	男	37	福建	律师	法律路489号	345678	
黄小芳	女	29	湖北	画家	艺术路490号	456789	
曹大明	男	49	湖南	官员	政府路501号	567890	
周小华	女	33	广东	教师	教育路512号	678901	
孙伟	男	41	广西	商人	商业路523号	789012	
周丽娟	女	31	海南	医生	健康路534号	890123	
吴国强	男	43	重庆	工人	工业路545号	901234	
郑小梅	女	26	四川	记者	新闻路556号	012345	
冯大刚	男	51	云南	教授	学术路567号	123456	
马小娟	女	23	贵州	歌手	音乐路578号	234567	
徐志强	男	36	福建	律师	法律路589号	345678	
黄小芳	女	28	湖北	画家	艺术路590号	456789	
曹大明	男	48	湖南	官员	政府路6		

CLAIMS

New claims:

9. A mount for an adjustable housing in which a position of the housing on the mount is adjustable, comprising a base plate; at least one adjusting screw for adjusting the position of the housing, said adjusting screw being guided by via a screw thread through the housing, said at least one adjusting screw being provided with a deflecting linkage; a rotary spindle guided on said base plate by said deflecting linkage to an outside, said rotary spindle being turnable in order to turn said at least one adjusting screw in said screw thread to provide an adjustment, said deflecting linkage including bevel gears, and at least one of said bevel gears on said adjusting screw being movable and pressable against the other or said bevel gears; and an element for moving said at least one bevel gear on said adjusting screw and pressing against said other bevel gear.

10. A mount as defined in claim 9, wherein said element is formed as a spring.

11. A mount as defined in claim 9, wherein said element is formed as a bevel gear container.

SECRET

1000

17. A mount as defined in claim 9; and further comprising three such screws which fasten the housing to the mount, and including two diagonally opposed screws each formed as an adjusting screw.

09373560, 09373561
09373562, 09373563

[1647 Translated by David Clayberg]

Mount for an Adjustable Housing

5

Prior Art

10 The invention relates to a mount for an adjustable housing, in particular for a radar sensor, which is attached to the outside of a motor vehicle, according to the preamble to the main claim.

15 It is known, for example from DE 197 39 298 C1, for a radar sensor to be screwed to the outside of a vehicle by means of a mount. This radar sensor can, for example, be a component of a vehicle safety system which continuously processes information regarding road conditions and the distance and/or relative speed of the vehicle in relation to
20 other vehicles. In this connection, it is necessary to align the radar sensor very precisely with the longitudinal axis of the vehicle, as a result of which it is necessary to adjust the sensor after installation in the motor vehicle, due to the sometimes significant vehicle tolerances in the
25 vicinity of the installation point.

30 With the apparatus mentioned above, the adjusting process of the radar sensor in the vehicle takes place from the front (in the driving direction) by turning relatively ball-shaped heads of adjusting screws. Another screw represents the so-called stationary support.

Advantages of the Invention

A mount of the type mentioned at the beginning, with which the position of a housing can be changed by means of at least one adjusting screw, is advantageous in the modification according to the invention, with the characterizing features of claim 1m particularly if it is not possible to access the adjusting screws from the front, for example, possibly due to vehicle parts being disposed in front of them, because this modification according to the invention significantly simplifies the mounting functions by virtue of the fact that the at least one adjusting screw on the mount is provided with a deflecting linkage. By means of the deflecting linkage, a rotary spindle on the base plate of the mount can be operated from the outside, as a result of which the adjustment is produced by turning the rotary spindle in order to turn the at least one adjusting screw in the screw thread.

In particular for attaching the housing of a radar sensor in which an adjustment of the housing is required in order to change the emission direction of the radar sensor, the deflecting linkage can advantageously produce a deflection of the rotation direction of the rotary spindle approximately at a right angle so that the rotation of the rotary spindle takes place approximately perpendicular to the emission direction.

Because of the narrow space conditions in a motor vehicle or due to an obstructed access from the front in the driving direction, it is advantageous if a radar sensor completely mounted to the motor vehicle can also be

inexpensively adjusted according to the invention from the bottom, the top, or the sides by means of adjusting screws.

In a preferred embodiment, the deflecting linkage is comprised of bevel gears; it is furthermore advantageous if at least one bevel gear on the adjusting screw can be moved and is pressed against the respective other bevel gear by means of a suitable structural design, e.g. a spring or the like. An extremely wide variation of the adjusting direction, e.g. from above, below, the left, or the right as well as a change in the bevel gear disposition can be achieved with this apparatus.

According to the invention, the screw thread that produces the movement of the housing along the longitudinal axis of the adjusting screws is advantageously disposed in the base plate of the mount.

In another advantageous embodiment, the deflecting linkage can be comprised of a worm gear and a spur-toothed wheel. In this instance, there is no danger of an inhibition or locking of the deflecting linkage due to a possibly excessive speed increasing ratio and it is therefore possible for there to be a very sensitive adjusting motion. Due to its design, this apparatus is also relatively unsusceptible to contamination.

The screw thread is constituted by a play-free thread, for example in a plastic insert in the base plate of the mount, which is self-channeling when the at least one adjusting screw is screwed in and is of the type which is intrinsically known from the prior art mentioned at the beginning. The housing can thereby be simply attached to the

mount with three screws, wherein two diagonally opposed screws can each be embodied as adjusting screws.

These and other characteristics of preferred
5 modifications of the invention can be inferred not only from the claims, including their dependent claims, but also from the specification and the drawings, wherein the individual characteristics can each be produced for themselves alone or can be combined in the form of subcombinations in the
10 embodiment of the invention and can be used in other areas and represent advantageous as well as individually patentable embodiments which are claimed herein.

15 Drawings

An exemplary embodiment of the mount according to the invention for the housing of a radar sensor on a motor vehicle will be explained in conjunction with the drawings.

20 Fig. 1 is a view of a radar sensor with an adjustable mount according to the prior art;

25 Fig. 2 is a view of a base plate of the mount according to the invention, with two adjusting screws with a deflecting linkage;

30 Fig. 3 shows a detail of the deflecting linkage according to Fig. 2.

Description of the Exemplary Embodiments

Fig. 1 is a perspective depiction of a distance sensor 1 designed as a radar sensor, of the type that is known from the prior art DE 197 39 298 C1 mentioned at the beginning. In order to be attached to a motor vehicle by means of a mount 2, the distance sensor 1 is accommodated in a compact housing 3, which in this instance is comprised of a lower housing part 3b and an upper housing part 3a.

In this known sensor 1, the two housing parts 3a and 3b are connected to each other by means of clip connections 6. In the upper housing part 3a, a lens 5 is provided for focusing the radar emissions of the distance sensor 1. The housing 3 of the distance sensor 1 is fastened to the mount 2 by screws 9 and 10, and another screw is accommodated in a corner of the sensor 1 that is covered by the housing part 3b. The mount 2 has catch or snap elements 7 with which it can engage in detent fashion in correspondingly shaped recesses in the body of a motor vehicle; a multitude of other fasteners can also be used here.

The screws 9, 10, and 11 (see Fig. 2) engage in screw regions of the mount 2 and have a ball-shaped screw head which is supported in a correspondingly shaped recess of the housing 3, as a result of which the housing 3 can be moved in relation to the mount 2 and can therefore be adjusted. Due to their L-shaped disposition, the screws 9 and 10 and the unseen screw produce a three-point support, wherein the screw 10 and the unseen screw constitute two movable supports for horizontal and vertical adjustment of the housing 3 (adjusting screws) and the screw 9 constitutes a stationary support.

A tightening or loosening of the adjusting screw 10, for example, in the associated screw region produces a tilting of the sensor 1 around an axis that extends through the suspension points of the screw 9 and the unseen screw 11. A tightening or loosening of the unseen adjusting screw 11, for example, in the associated screw region produces a tilting of the sensor 1 around an axis that extends through the suspension points of the screws 9 and 10.

Fig. 2 shows an exemplary embodiment according to the invention of an arrangement of adjusting screws 11 and 12 on a mount 13; reference is also made here to the detailed depiction of the adjusting screw 11 according to Fig. 3. With this embodiment of the adjusting screws 11 and 12, it is possible to adjust a distance sensor which essentially corresponds to the known sensor 1 known from Fig. 1. The adjusting screws 11 and 12 here are also screwed with a self-channeling thread into plastic inserts 14 disposed in the mount 13. The only thing that must be assured here is that no further rotating motion of the screw heads disposed at the front is possible, which can be achieved, for example, by means of a cover on the sensor housing.

The adjusting screws 11 and 12 are embodied according to the invention so that they can be adjusted from underneath by means of a respective rotary spindle 15, 16. The rotating direction of the rotary spindles 15 and 16 are deflected by 90° here by means of bevel gears 17 and 18 on the adjusting screw 11 and by means of bevel gears 19 and 20 on the adjusting screw 12. The bevel gears 17 and 19 are affixed to the respective rotary spindle 15 or 16, e.g. by means of shrink-fitting or, as can be seen in Fig. 3, by

means of a frictional engagement through the use of a square or other suitable shapes (e.g. a semicircle).

5 The rotary spindles 15 and 16 here are supported
directly on the mount 13 and a screw head is disposed at the
end of each rotary spindle 15 and 16, which can be matched
specifically to the intended use, for example in the form of
a hexagon. The bevel gears 18 and 20 here are connected to
the adjusting screws 11 and 12 with frictional engagement by
10 means of the square ends of the adjusting screws. The bevel
gears 18 and 20 can be moved parallel to the axis of the
adjusting screws 11 and 12 within defined limits. The bevel
gears 18 and 20 can be pressed against the bevel gears 17
and 19 by means of a spring 21 (see Fig. 3) or by means of a
15 suitable embodiment of the plastic.

For example, if the rotary spindle 15 is turned, then
the bevel gears 17 and 18 and the adjusting screw 11 as well
are turned along with it. The adjusting screw 11 is screwed
20 in and out by means of the play-free thread-channeling
support of the adjusting screw 11 in the plastic insert 14
of the mount 13. The bevel gear 18 thereby moves
longitudinally in relation to the axis of the adjusting
screw 11. The initiation of the screw motion for adjusting
25 the above-described radar sensor consequently takes place
according to the invention offset by 90° in relation to the
rotation direction of the adjusting screws 11 and 12. The
Figs. depict the possibility of an adjustment from the
bottom, but an adjustment from the top, the left side, or
30 the right side is also possible. This merely requires a
change in the disposition of the bevel gears in relation to
one another.

Claims

1. A mount for an adjustable housing in which

- 5 - the position of the housing (3a, 3b) on the mount (2; 13) can be changed with at least one adjusting screw (10; 11, 12) and the adjusting screw (10; 11, 12) is guided via a screw thread through the housing (3a, 3b) or on the housing (3a, 3b), perpendicular to a base plate of the
10 mount (2; 13), characterized in that
- the at least one adjusting screw (11, 12) on the mount (13) is provided with a deflecting linkage via which a rotary spindle (15, 16) on the base plate on the mount
15 (13) can be guided to the outside and the adjustment can be produced by turning the rotary spindle (15, 16) in order to turn the at least one adjusting screw (11, 12) in the screw thread.

20 2. The mount according to claim 1

- for fastening the housing (3a, 3b) of a radar sensor, in which an adjustment of the housing (3a, 3b) in order to
25 change the emission direction of the radar sensor from the housing wall disposed opposite the base plate of the mount (2; 13), characterized in that
- the deflecting linkage produces a deflection of the rotary
30 motion of the rotary spindle (15, 16) approximately at a right angle so that the rotation of the rotary spindle (15, 16) takes place approximately perpendicular to the emission direction.

3. The mount according to claim 1 or 2, characterized in that

5

- the deflecting linkage is comprised of bevel gears (17, 18, 19, 20).

10 4. The mount according to claim 3, characterized in that

- 15
- at least one bevel gear (18, 20) on the adjusting screw (11, 12) can be moved and can be pressed against the respective other bevel gear (17, 19) by means of a spring (21) or a suitable form of the bevel gear container.

20 5. The mount according to one of the preceding claims, characterized in that

- the screw thread is disposed in the base plate of the mount (13), preferably in plastic inserts (14).

25

6. The mount according to one of the preceding claims, characterized in that

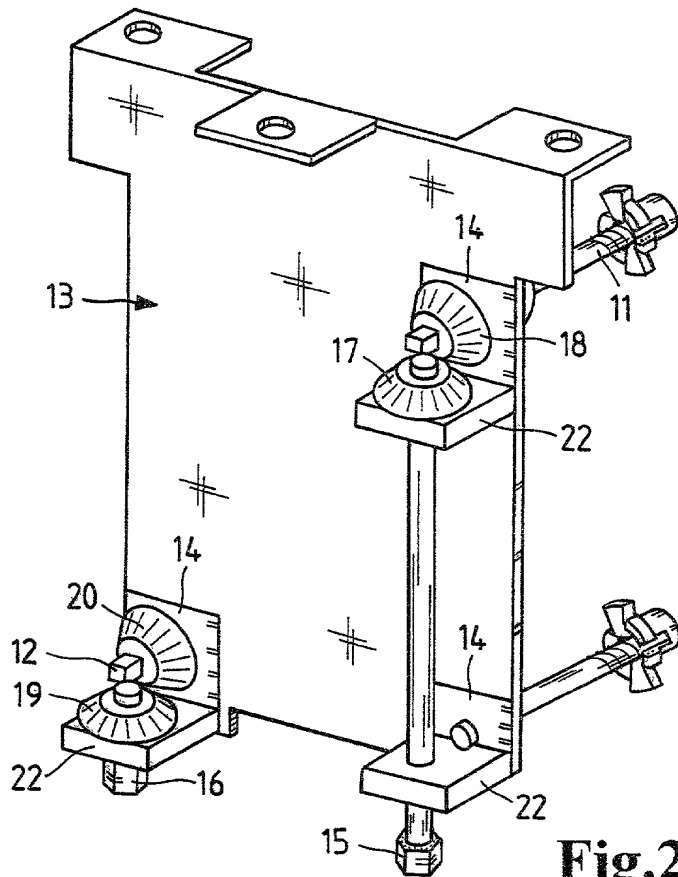
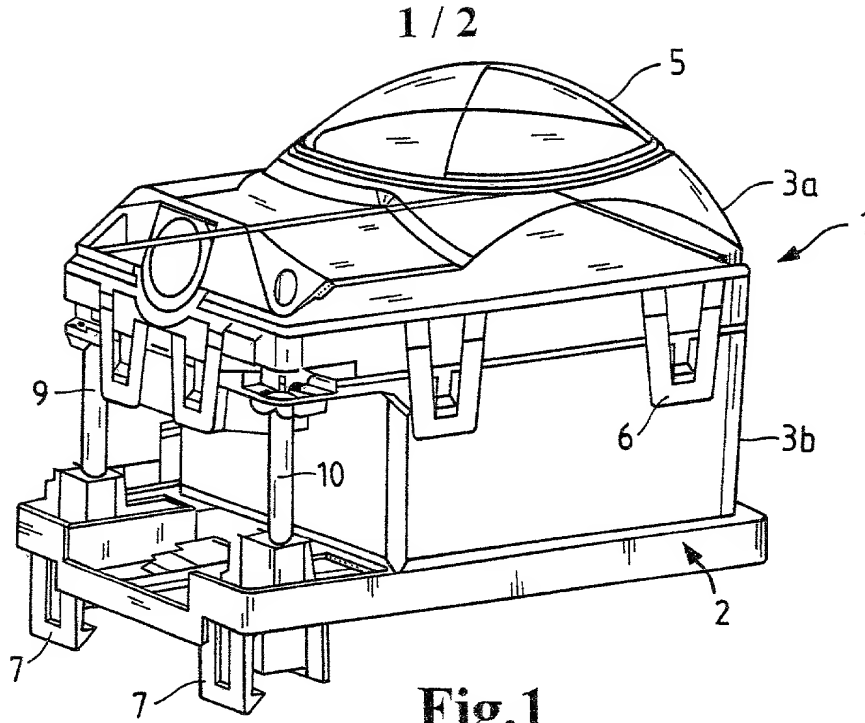
- 30
- the deflecting linkage is comprised of a worm gear and a spur-toothed wheel.

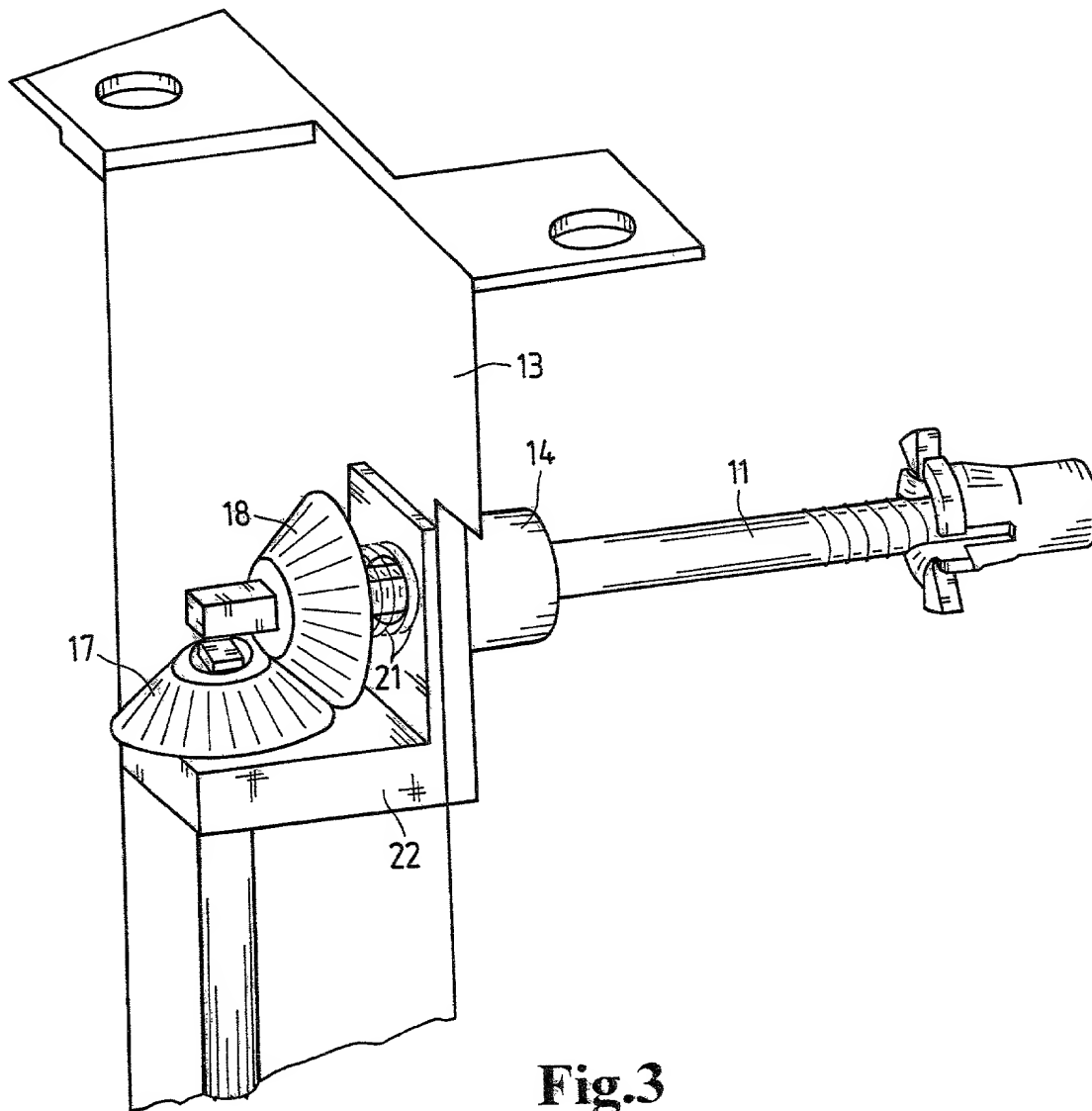
Abstract

The invention relates to a mount for an adjustable housing in which the position of the housing (3a, 3b) on the mount (2; 13) can be changed with at least one adjusting screw (10; 11, 12). The at least one adjusting screw (11, 12; 23) is provided with a deflecting linkage on the mount (13) via which a rotary spindle (15, 16) on the base plate on the mount (13) can be guided to the outside and the adjustment can be produced by turning the rotary spindle (15, 16) in order to turn the at least one adjusting screw (11, 12) in the screw thread.

(Fig. 2)

00013560-001501



**Fig.3**

DECLARATION AND POWER OF ATTORNEY FOR NATIONAL STAGE OF PCT PATENT APPLICATION

As a below-named inventor, I hereby declare that:

Bernhard LUCAS
Dirk LANGENHAN

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **MOUNT FOR AN ADJUSTABLE HOUSING** the specification of which was filed as PCT International Application number PCT/DE 00/01464 on May 10, 2000.

I hereby state that I believe the named inventor or inventors in this Declaration to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365 (b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior foreign application(s):

Priority claimed:

199 24 055.8
(Number)

GERMANY
(Country)

MAY 26, 1999
(Date filed)

X
Yes

No

(Number)

(Country)

(Date filed)

Yes

No

As a named inventor, I hereby appoint the following attorney to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

/ Michael J. Striker, Reg. No. 27233

Direct all telephone calls to Striker, Striker & Stenby at telephone no.: (631) 549 4700 and address and all correspondence to:

STRIKER, STRIKER & STENBY
103 East Neck Road
Huntington, New York 11743
U.S.A.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statement may jeopardize the validity of the application or any patent issued thereon.

FORM 0954T-660

Signature: <i>[Signature]</i>	Date: 8.6.01	Residence and Full Postal Address: Zehenderstrasse 2 74354 Besigheim Germany <i>DEX</i>
Full Name of First or Sole Inventor: Bernhard LUCAS	Citizenship: GERMAN	
Signature: <i>Dirk Langenhan</i>	Date: 2.7.01	Residence and Full Postal Address: Breslauer Strasse 11 <i>Alte Poststr. 116</i> 71701 Schwieberdingen Germany <i>85591 Vatersleben</i>
Full Name of Second Inventor: Dirk LANGENHAN	Citizenship: GERMAN	
Signature:	Date:	Residence and Full Postal Address:
Full Name of Third Inventor:	Citizenship:	
Signature:	Date:	Residence and Full Postal Address:
Full Name of Fourth Inventor:	Citizenship:	
Signature:	Date:	Residence and Full Postal Address:
Full Name of Fifth Inventor:	Citizenship:	
Signature:	Date:	Residence and Full Postal Address:
Full Name of Sixth Inventor:	Citizenship:	
Signature:	Date:	Residence and Full Postal Address:
Full Name of Seventh Inventor:	Citizenship:	
Signature:	Date:	Residence and Full Postal Address:
Full Name of Eighth Inventor:	Citizenship:	
Signature:	Date:	Residence and Full Postal Address:
Full Name of Ninth Inventor:	Citizenship:	